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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,276

05/21/2007

Robert Cudini

CUDI3001 /FJD

4085

23364 7590 06/27/2011

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EXAMINER

DEVITO, ALEX T

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

06/27/2011

PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/584,276
Filing Date: May 21, 2007
Appellant(s): CUDINI ET AL.

Felix J. D'Ambrosio
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/7/11 appealing from the Office action mailed 9/7/10.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application: 16-31.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6539819	Dreyer et al.	4-1-2003
5370557	Olsson	12-6-1994
5692681	Steinhauser et al	12-2-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 16-31 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer (U.S. Patent No. 6,539,819) in view of Olsson (U.S. Patent No. 5,370,557).

With respect to Claim 16, Dreyer discloses a modular measuring device, comprising: a sensor module [2] having a sensor compartment [5], in which a physical-to-electrical sensor [7] is arranged (see column 2, line 62 - column 3, line 10; an electronics module [13], having an electronics compartment [14], in which a measuring device electronics [16] is arranged; a first connecting element [19] mounted on said electronics module and electrically connected with said measuring device electronics (column 3, lines 40-51); and a second connecting element [15] mounted on said sensor module and electrically connected with said sensor (column 3, lines 40-51); and a seal [33] wherein: said sensor module and said electronics module are releasably, mechanically connected together, accompanied by the formation of a connecting compartment lying between said sensor compartment and said electronics compartment (column 2, lines 31-39 and column 3 lines 40-61), said two connecting elements are electrically, connected together, so that said measuring device electronics and said sensor are electrically coupled together (column 3, lines 40-43); and said two connecting elements, connected together, are accommodated in the connecting compartment [13] formed between said sensor compartment and said electronics compartment (note that in figure 1, 13 is between 5 and 14, the sensor compartment and the electronics compartments) said seal is so arranged in said connecting compartment, that it laterally surrounds at least one of said two connecting elements (33

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surrounds 19, see Dreyer figure 1) and contacts with an external side at least one side wall of said connecting compartment (see figure 1 and Dreyer column 3, lines 52-61).

Dreyer does not disclose a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection corresponding with said groove of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element and/or with at least one side wall of at least one of said two connecting elements has at least one essentially straight projection and at least one side wall of said connecting compartment has an essentially straight groove corresponding with the projection of said connecting element; and the projection of said connecting element is received by the groove of said connecting compartment.

Olsson discloses a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection [106] corresponding with said groove (see figure 13 for the space occupied by 106s) of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element (columns 3 and 4) and/or with at least one side wall of at least one of said two connecting elements has at least one essentially straight projection (106) and at least one side wall of said connecting compartment has an essentially straight groove (space occupied by 106) corresponding with the projection of said connecting element; and the projection of said

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connecting element is received by the groove of said connecting compartment (columns 3 and 4).

Since Olsson uses these projections and grooves to fit together two connecting elements in a modular measuring device (see column 1, lines 10-15), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the modular measuring device of Dreyer by fitting the connecting elements with projections and grooves as taught by Olsson to uniquely couple mating elements (see Olsson's abstract).

With respect to Claim 17, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 16 wherein: at least one of said two connecting elements is movably mounted (see Dreyer, column 2, lines 31-39).

With respect to Claim 18, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 16 wherein: said two connecting elements are galvanically connected together. Note that barring any specific definition of galvanic connection in the specification, the examiner is broadly interpreting the conducting connection to be galvanic.

With respect to Claim 19, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 16 wherein: the connecting compartment is sealed fluid-tightly and/or pressure-tightly, relative to a surrounding atmosphere (see Dreyer, column 2, lines 18-30).

With respect to Claim 20, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 16 wherein: at least one of said two connecting

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elements has electrically conductive, plug elements (Olsson, figure 1) directed essentially in parallel with one another (see Olsson, Figure 1); and the other of said two connecting elements has electrically conductive, socket elements (Olsson, note openings 80 of which the parallel plug elements are inserted) directed essentially in parallel with one another and corresponding to said plug elements; said plug elements are inserted into said socket elements and so contact said socket elements, that said sensor and said measuring device electronics are electrically connected together (see Olsson, column 1, lines 45-53); and said plug elements and said socket elements are directed essentially in parallel with said at least one groove of said connecting compartment and/or with the at least one projection of said connecting compartment (see Olsson's figure 1).

With respect to Claim 21, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 20 wherein: the combination of Dreyer and Olsson disclose all the claimed limitations of claim 20 above and also disclose that both said plug elements and said socket elements protrude into said connecting compartment (16 of Olsson's figure 1 is a connecting compartment).

With respect to claim 22, the combination of Dreyer and Olsson disclose all the claimed limitations of claim 20 above and also disclose that at least one of said plug elements and/or at least one of said socket elements is mounted laterally and/or rotatably movably within said connecting element of which it is a part (see Olsson, figure 1 for lateral mounting).

With respect to claim 23, the combination of Dreyer and Olsson disclose all the claimed limitations of claim 18 above and also disclose for preventing an erroneous assembly of said sensor module and said electronics module, the at least one projection of said connecting compartment and said connecting element groove corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined (see Olsson's abstract).

With respect to claim 24, the combination of Dreyer and Olsson disclose all the claimed limitations of claim 18 above and also disclose for preventing an erroneous assembly of said sensor module and said electronics module, the at least one groove of said connecting compartment and said connecting element projection corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined (see Olsson's abstract).

With respect to claim 25, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 16, wherein: said seal is essentially ring-shaped [33].

With respect to claim 26, Dreyer discloses the measuring device as claimed in claim 25 wherein: said seal [33] is arranged coaxially, especially concentrically, with the surrounded connecting element (column 3, lines 52-61).

With respect to claim 27, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 25 wherein: said seal [33] is arranged within said connecting compartment [17] in the region of a peripheral gap in the side wall of said

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connecting compartment, and lying between said connecting element [19] and side wall of said connecting compartment [17] (see Dreyer, column 3, lines 50-51).

With respect to claim 28, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 25 wherein: said seal [33] has on its outside, contacting the side wall of said connecting compartment, two sealing lips extending essentially in parallel with one another (see annotated Dreyer's figure 1 below).

With respect to claim 29, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 27 wherein: said seal [33] is so arranged in said connecting compartment that the two sealing lips extend essentially in parallel with said gap in the side wall of said connecting compartment (see annotated Dreyer's figure 1 below and column 3, lines 52-61).

With respect to claim 30, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 29 wherein: said seal [33] is so arranged in said connecting compartment that said gap in the side wall of said connecting compartment extends essentially between the sealing lips of the seal (see annotated Dreyer's figure 1 below and column 3, lines 52-61).

With respect to claim 31, the combination of Dreyer and Olsson disclose the measuring device as claimed in claim 26 wherein: said seal is arranged concentrically with the surrounded connecting element (see Dreyer's figure 1 to see 33 concentrically surround connecting element 19).

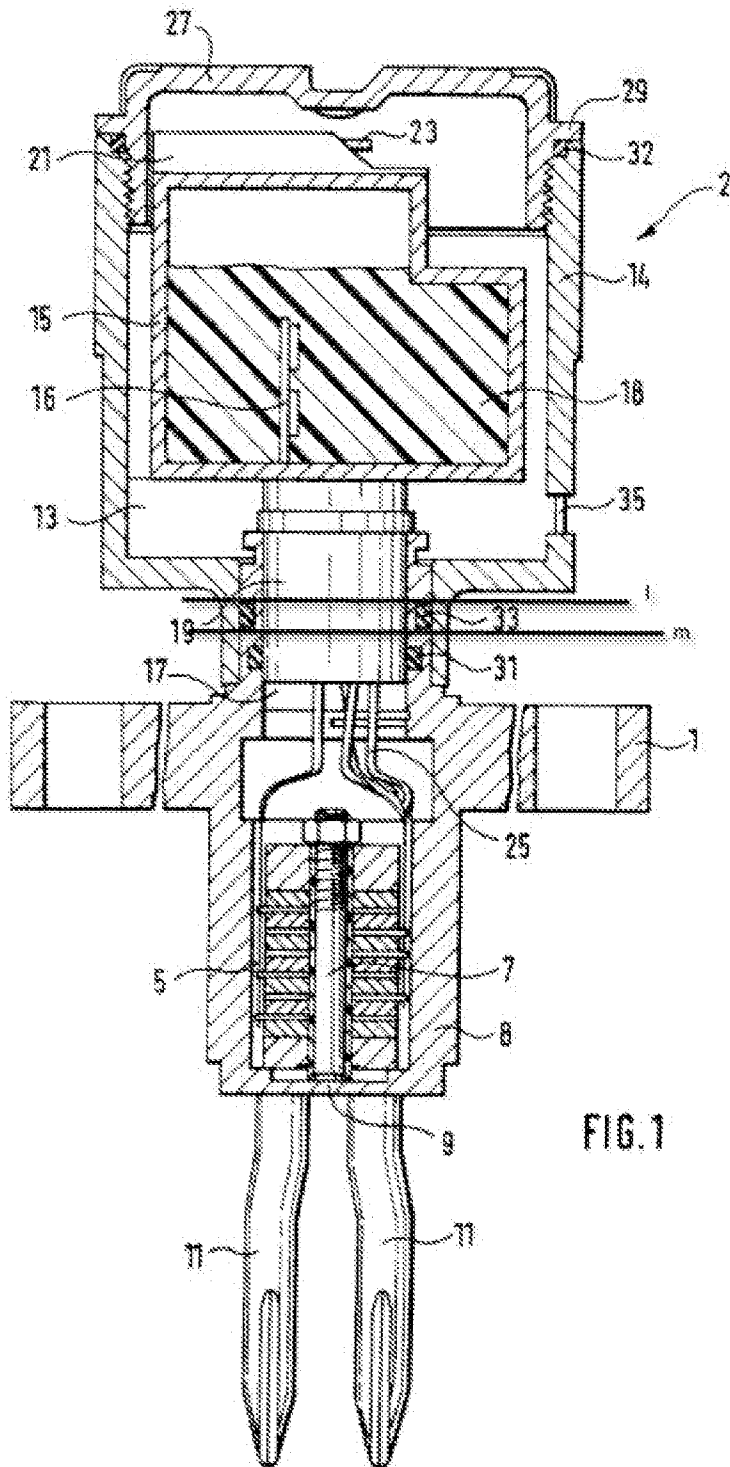


FIG. 1

Note sealing lips touching lines l and m are parallel.

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3. Claims 16 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer (U.S. Patent No. 6,539,819) and Olsson (U.S. Patent No. 5,370,557), in further view of Steinhauser et al (U.S. Patent No. 5,692,681, hereinafter Steinhauser).

With respect to Claim 16, Dreyer discloses a modular measuring device, comprising: a sensor module [2] having a sensor compartment [5], in which a physical-to-electrical sensor [7] is arranged (see column 2, line 62 - column 3, line 10; an electronics module [13], having an electronics compartment [14], in which a measuring device electronics [16] is arranged; a first connecting element [19] mounted on said electronics module and electrically connected with said measuring device electronics (column 3, lines 40-51); and a second connecting element [15] mounted on said sensor module and electrically connected with said sensor (column 3, lines 40-51); and a seal [33] wherein: said sensor module and said electronics module are releasably, mechanically connected together, accompanied by the formation of a connecting compartment lying between said sensor compartment and said electronics compartment (column 2, lines 31-39 and column 3 lines 40-61), said two connecting elements are electrically, connected together, so that said measuring device electronics and said sensor are electrically coupled together (column 3, lines 40-43); and said two connecting elements, connected together, are accommodated in the connecting compartment [13] formed between said sensor compartment and said electronics compartment (note that in figure 1, 13 is between 5 and 14, the sensor compartment and the electronics compartments).

Dreyer does not disclose a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection corresponding with said groove of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element and/or with at least one side wall of at least one of said two connecting elements has at least one essentially straight projection and at least one side wall of said connecting compartment has an essentially straight groove corresponding with the projection of said connecting element; and the projection of said connecting element is received by the groove of said connecting compartment.

Olsson discloses a modular measuring device with at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection [106] corresponding with said groove (see figure 13 for the space occupied by 106s) of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element (columns 3 and 4) and/or with at least one side wall of at least one of said two connecting elements has at least one essentially straight projection (106) and at least one side wall of said connecting compartment has an essentially straight groove (space occupied by 106) corresponding with the projection of said connecting element; and the projection of said connecting element is received by the groove of said connecting compartment (columns 3 and 4).

Since Olsson uses these projections and grooves to fit together two connecting elements in a modular measuring device (see column 1, lines 10-15), it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the modular measuring device of Dreyer by fitting the connecting elements with projections and grooves as taught by Olsson to uniquely couple mating elements (see Olsson's abstract).

Olsen however, does not disclose a seal that is arranged in said connecting compartment, that it laterally surrounds at least one of said two connecting elements and contacts with an external side at least one side wall of said connecting compartment.

Steinhauser discloses a similar electrical connector to Olsen, but instead of remaining silent on the sealing methods, explicitly discloses a seal that is arranged in said connecting compartment, that it laterally surrounds at least one of said two connecting elements and contacts with an external side at least one side wall of said connecting compartment (note figure 4, seal 25 and column 2, lines 39-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the sealing of Steinhauser in place of the sealing in Olsen as both electrical connectors are very similar and both need to be sealed.

(10) Response to Argument

The appellant has two arguments. First it is argued that Dreyer does not have a modular design. The appellant submits a wikipedia reference in attempt to further define the term "modular". The examiner finds that even if one were to consider this

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alternate definition, the prior art of record still reads on the term “modular” The appellant first argues that “a modular design as an approach that subdivides a system into smaller parts (modules) that can be independently created and then used in different systems to drive multiple functionalities” but then quotes the Dreyer reference column 2, lines 30-34, specifically “another advantage of the sensor of the present invention is that it is modular. The electronics and sensor element are separate components which can be used independent of one another”. The examiner finds that this unambiguously reads on the claimed limitations. The examiner does not follow the details regarding the “functional assembly”. The Dreyer reference certainly provides an enabled and functioning sensor with moisture protection comprising an electronics section and a sensor section.

The second argument that the appellant puts forth is that the combination of Dreyer and Olsson does not prove the teachings of the groove and projection. The appellant first admits that Keying arrangements such as Olsson are known, but finds that one would not modify the connecting means of Dreyer with the keying elements of Olsson to arrive at the claimed invention. Dreyer is concerning connecting two modular pieces. Olsson teaches how to uniquely define plug and receptacle pairs to mate multiple modules of electrical equipment. The examiner finds that the plug and receptacle pairs read on the groove and projections of the claimed invention. Since Olsson clearly spells out the advantage and motivation to use plug and receptacles pairs, the examiner must disagree with the appellant’s conclusion.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/ALEX DEVITO/

Examiner, Art Unit 2856

Conferees:

/HEZRON E WILLIAMS/

Supervisory Patent Examiner, Art Unit 2856

/David S Martin/

Examiner, OPQA